



University of the Philippines Diliman  
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L Arch 200 Undergraduate Thesis  
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# FOOD FOR THOUGHT: Incorporating Food Security Dimensions in ZFarm Designs for Philippine Urban Spaces

The global trends point to a continuing rapid population growth and increase in urban population which makes it imperative to find more sustainable ways to provide space, food, and other resources for the future.

Zero-Acreage Farming or ZFarming is gaining traction as it offers untouched rooftops and other idle spaces in and around buildings as produce-generating structures, effectively utilizing the space and providing other benefits to its users and surroundings. Among the 5 ZFarming types, the ZFarming for urban living quality typology is observed in this study. It is characterized by its integration into residential buildings and by having key players who are also the main beneficiaries. Lastly, although it has low transformative potential, it still enhances urban qualities by providing recreational spaces where people can grow their own food close to their homes.

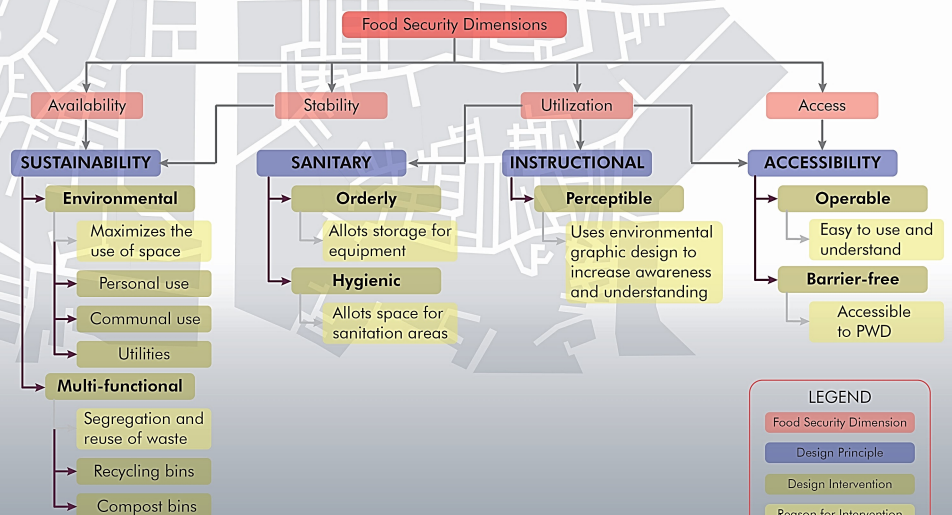
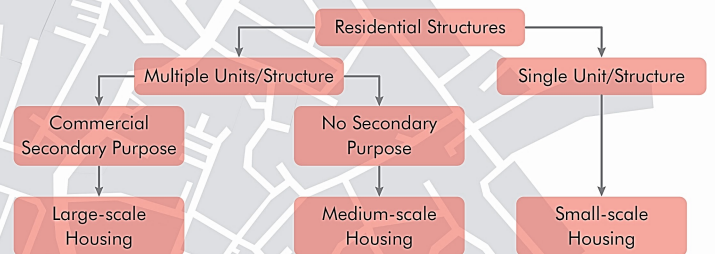
The food security dimensions were translated into design principles to determine the appropriate design intervention to satisfy each dimension and the project's contribution to food security.

Under the sustainability design principle are multi-functional and environmental design interventions. Multi-functionality maximizes the space for alternative uses and increases the people's interest in going to the ZFarm while environmental interventions look into the segregation and reuse of waste.

The sanitary design principle is achieved through orderly and hygienic design interventions. Orderliness is achieved through storage allocation for the equipment used in ZFarms to ensure it is clean before use, while hygiene in space allocation for sanitation stations.

The instructional design principle looks into the perceptibility of the ZFarm by using EGD materials to increase understanding and awareness on the project.

The accessibility design principle ensures operable and barrier-free design by incorporating simple designs and elements that allow people with disabilities and those without experience to navigate and use the area comfortably.



**LEGEND**

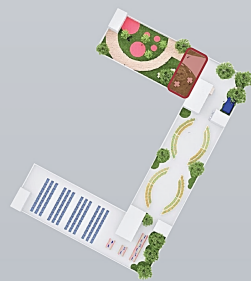
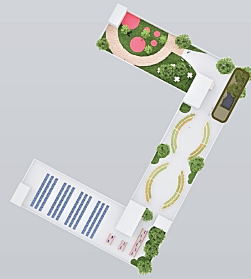
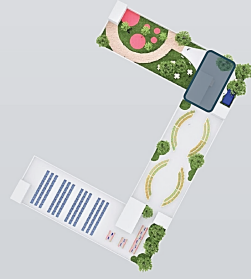
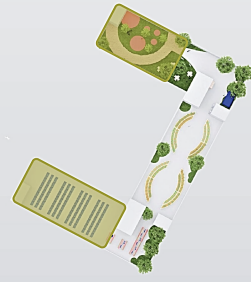
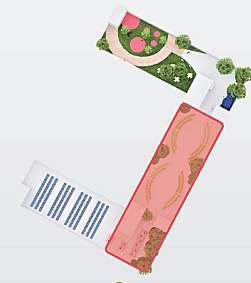
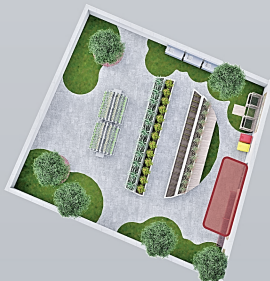
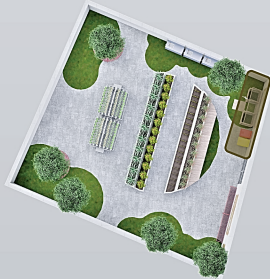
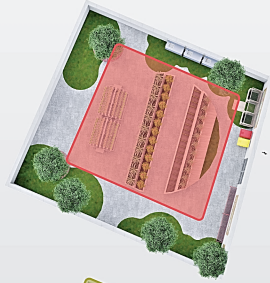
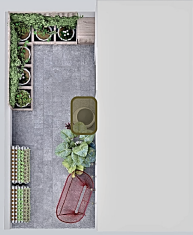
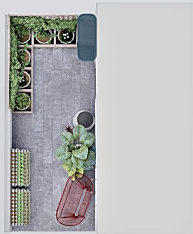
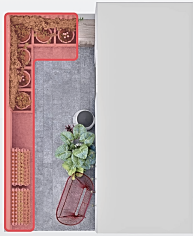
- Food Security Dimension
- Design Principle
- Design Intervention
- Reason for Intervention
- Design Intervention
- Reason for Intervention



## SMALL-SCALE HOUSING

## MEDIUM-SCALE HOUSING

## LARGE-SCALE HOUSING



### PRODUCTION

The production area incorporates different forms of ZFarming methods to accommodate the scale of the structure and produce a wide variety of food. Moreover, this aims to encourage the people to participate.

Planting beds and hydroponic systems are present in all scales as they are the most simple and used practices. It is important to note that the planting beds are of different heights to allow many people to use the development comfortably. A vertical system is also incorporated in the small-scale housing ZFarm to maximize the little space.

### RECREATION

The recreation area has the largest space allocation in the proposed designs because another goal of the typology ZFarming for urban living quality is to provide a space for recreation for urban communities. This is also to make the ZFarm more welcoming and not limit its purpose to food production. These areas are multi-functional in nature to allow the people to have choices on the use of the space. However, it is encouraged to have multiple seating furniture as is expected of any outdoor space. These are to be placed preferably adjacent to production systems to stimulate the people's interest with the activity.

### SANITATION

The sanitation area uses washing stations and storage sheds to keep the development orderly and encourage the people to practice good hygiene as they deal with food.

The storage sheds are only for the equipment used in food production, hence, the size should be considered so that it not allow the storage of unrelated items. Moreover, the washing stations are preferably adjacent to walkways for easy access. Additionally, with the emergence of COVID-19, one of the vital measures is hand-washing so the inclusions of sanitation stations are encouraged in communal spaces.

### WASTE

It is encouraged to keep waste facilities near the production area because the compost produced is to be used as fertilizer for the plants. Moreover, it is to be placed near the entrance and exit points so that it can be easily taken out for cleaning and other maintenance services.

While biodegradable waste is prioritized for segregation, a larger area and space allocation allows segregation for recyclable waste too.

### INFORMATION

Different Environmental Graphic Design (EGD) materials are displayed around the ZFarms, depending on the function of the area. In accordance with the Progressive Disclosure Technique, information will only be revealed to the user when it is relevant to the task at hand. Moreover, it is placed strategically where other important information is posted and where it can serve as observation spaces to peak the interest of the user. However, there are no instructional materials are directly integrated in the ZFarm as this could be easily accessed through digital means or smaller printed versions of EGD materials.

